

Work Order ID 164915***164915***

Page 1

Wednesday, August 09, 2017 2:41:43 PM

Item ID: D5122-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Center Support, Upper
Start Date: 8/21/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 8/28/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: DAS 21 9-89 Date: AUG 10 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D5122	A								
100	HAAS CNC VERTICAL MACHINING #1	2.57				4	2		DAS 33 9-89 17/09/08 PTO
100									
HAAS 1	Memo	2.33							
HAAS CNC vertical machine #1	Machine as per Folio FB324 Folio Rev: <u>AA</u> Dwg Rev: <u>A</u>								
	Deburr								
110	QC2- Inspect parts off machine FAI/FAIB	0.00				4	2		DAS 33 9-89 17/09/08
110									
QC	Memo	0.04							
Quality Control									

NCR →

QA Closed: [Signature] Date: 17-10-31
OCT - 4 2017

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>164915</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS				Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐	Engineering Quality ☐ Other ☐
Part No. <u>D5122-1</u>		Skid-tube Machining ☒ Thermoforming Large Fab ☐	Cross tube Small Fab ☐ Finishing Composite ☐				
NCR No. <u>17-6635</u>							
Date: <u>17/09/07</u>	Step #: <u>100</u>	QTY Effective: <u>2</u>				MRB (QS1042) Approval	

Description Work Order Deviation <u>Radius 0.638 is off tolerance</u> <u>RC → use wrong tool</u>	Disposition <u>Scrap & Replace</u> DAS 33 9-89 17/09/08 <u>155452</u> <u>1</u>	Completed By <u>DAS 33 9-89 17/09/08</u> Lead hand / Supervisor Approval Verification <u>on 17/09/08</u> QC / QA Coordinator Approval <u>PD 17-09-12</u>
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☒ Offset/Setup ☒ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☒ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☒ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

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164915

Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamps
120 *120* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.08				4			39 9-89 17-09-13
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>LG053</u> Memo LOCATION: <u>LG054</u>	0.00 0.04				4			SEP 14 2017 mce
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.40							17/9/18 JH

DAS
21
9-89

SEP 14 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

Picklist Print

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Page 1

Work Order ID: 164915

164915

Parent Item: D5122-1

D5122-1

Parent Item Name: Center Support, Upper

Start Date: 8/21/2017

Required Date: 8/28/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV.A NEW ISSUE JFS 14/07/16 VERIFIED BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D5122-1TRN

Manufactured

No

100

Each

5.0000

0.5

2

DAS
33
9-89

D5122-1TRN

**

Center Support, Upper, Turning Detail

17/09/08

Location

Loc Qty

Loc Code

MAT060

5

155452

5

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

DART AEROSPACE LTD		Work Order: 16791
Description: Center Support		Part Number: D5122-1
Inspection Dwg: D5122	Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

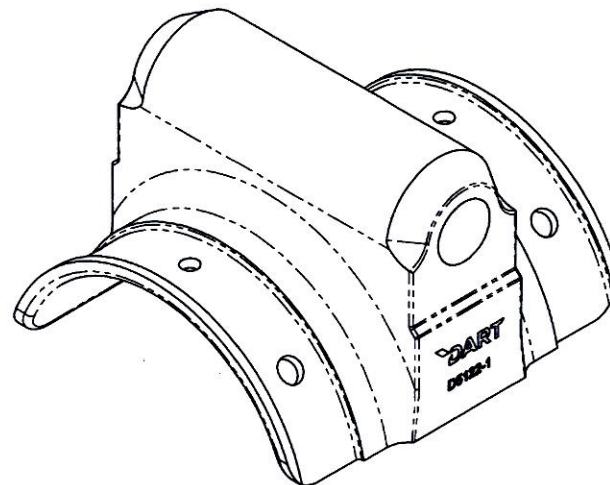
Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
HAAS Section								
AA	1.182	1.202		1.192	1.193	1.192	1.193	
AB	0.090	0.110		0.095	0.096	0.097	0.097	
AC	0.545	0.565		0.558	0.557	0.559	0.552	
AD	3.690	3.700		3.695	3.695	3.695	3.695	
AE	3.550	3.560		3.555	3.555	3.555	3.555	
AF	2.453	2.473		2.464	2.465	2.466	2.467	
AG	1.261	1.281		1.272	1.273	1.271	1.272	
AH	0.150	0.210		0.185	0.185	0.185	0.185	
AI	0.454	0.474		0.464	0.461	0.460	0.460	
AJ	Ø0.260	Ø0.267		0.261	0.261	0.261	0.261	
AK	Ø0.188	Ø0.194		0.191	0.191	0.191	0.191	
AL	3.067	3.077		3.072	3.072	3.072	3.072	
AM	3.990	4.010		3.998	3.998	3.998	3.998	
AN	1.990	2.010		1.998	2.000	1.999	1.999	
AO	Ø0.625	Ø0.630		0.626	0.626	0.626	0.626	
AP								
AQ								
AR								
AS								
AT								
AU								
AV								
AW								
AX								
AY								
AZ				0.001	0.001	0.000	0.001	
Ensure that Ø " bore is perpendicular to " bore within " Accept/Reject ✓ ✓ ✓ ✓ ✓								

Measured by:	DAS 33 9-89	Date:	17/09/02
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Audited by:		Date:	
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Preliminary Approval:		Date:	
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Rev	Date	Change	Revised by	Approved
A	15.03.12	New Issue	KJ	



D5122-1 CENTER SUPPORT

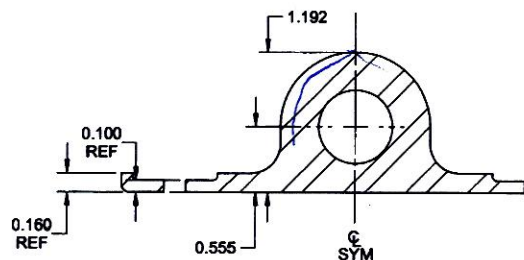
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 164915 MJS
1708-09

RELEASED
2014-08-25

NOTES:

- 1) MATERIAL: MAKE FROM D5122-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART LOGO AND P/N "D5122-1" IN AREA SHOWN
USING 0.125 HIGH X 0.010-0.020 DEEP LETTERING PER DART QSI 044 6.3,
IDENTIFY WITH DART B/N PER DART QSI 044 6.1
- 7) WEIGHT: 2.13 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5122-1-REVA.SLDPRT"

APPROVED	A NEW ISSUE		AP	14.06.02
	REV.	DESCRIPTION	BY	DATE
	DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	AP		
	CHECKED	CP	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5122	SHEET 1 OF 3
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	CENTER SUPPORT	NTS
	DATE	14.06.02	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



SECTION A-A

HOLES PERPENDICULAR
WITHIN 0.005 OVER
ENTIRE LENGTH

R0.063
AROUND INSIDE EDGE

0.464 REF

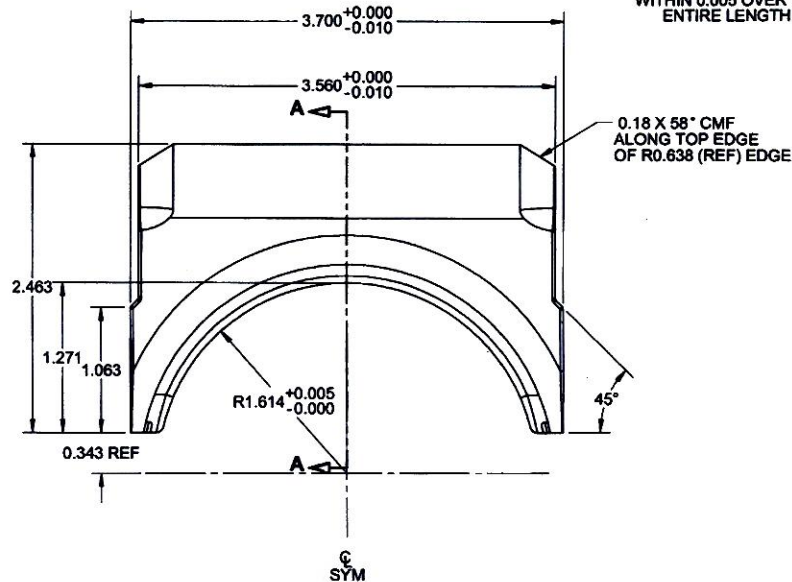
OPTIONAL $\phi 0.261$ REF
TOOLING HOLE,
LOCATED AT 45° TO VERTICAL
4 PL

OPTIONAL $\phi 0.189$ REF
TOOLING HOLE,
2 PL

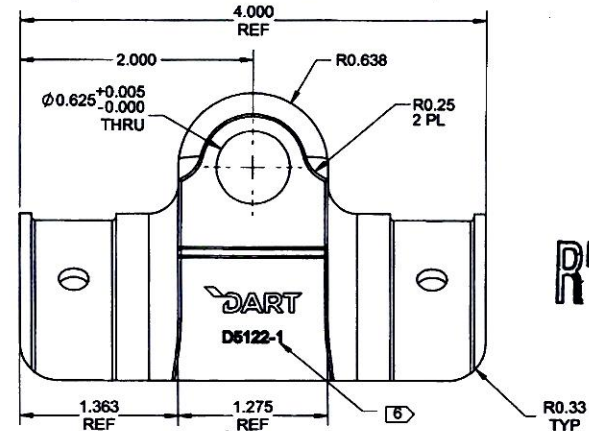
HOLES PERPENDICULAR
WITHIN 0.005 OVER
ENTIRE LENGTH

3.072 REF

4.000
REF



D5122-1 CENTER SUPPORT



RELEASED
2014-08-25

APPROVED

DESIGN	AP
DRAWN	AP
CHECKED	CP
MFG. APPR.	JLM
APPROVED	MP
DE APPR.	DS
DATE	14.06.02

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.	REV. A
D5122	SHEET 2 OF 3
TITLE	SCALE
CENTER SUPPORT	NTS

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